

Attorney's Docket: 1997DE419/DIV/CSerial No.: 10/748,011Art Unit 1713Response to Office Action of August 9, 2004

This listing of claims will replace all prior versions, and listings of claims in the application:

1-12. (Canceled)

13. (Currently Amended) A copolymer obtained by a process for the preparation of terpolymers of ethylene and at least two further olefinically unsaturated comonomers selected from the group consisting of vinyl esters, acrylates, methacrylates, alkyl vinyl ethers, alkenes and mixtures thereof, by polymerization in a single tubular reactor fitted with at least one side branch, wherein the fresh monomer components, initiator and optional regulator are introduced into the tubular reactor via the reactor inlet (the primary stream) or via the side branch or side branches (secondary stream or secondary streams), and wherein each of the streams contain ethylene and at most one different of the two further olefinically unsaturated comonomers, the copolymer having a melt viscosity measured at 140 °C of between 30 and ~~[[100]]~~ 10,000 mPas.

14. (Currently Amended) The copolymer of claim 13, wherein the comonomer content in the primary stream is from 3 to 200 parts by weight, ~~preferably from 7 to 400 parts by weight~~, per 100 parts by weight of ethylene, and the comonomer content in the secondary stream is from 10 to 500 parts by weight, ~~preferably from 20 to 300 parts by weight~~, per 100 parts by weight of ethylene.

15. (Previously Presented) The copolymer of claim 13, wherein the initiator contents in the primary stream are from 50 to 10,000 ppm by weight, ~~preferably from 50 to 4000 ppm by weight~~, and the initiator contents in the secondary stream are from 100 to 10,000 ppm by weight, ~~preferably from 200 to 2000 ppm by weight~~, in each case based on the monomer mixture.

16. (Previously Presented) The copolymer of claim 13, wherein the regulator concentration in the primary and secondary streams is identical or different and is from 0.05 to 20% by weight, based on the monomer mixture.

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17. (Previously Presented) The copolymer of claim 16, wherein the regulator concentration in the primary stream is from 0.1 to 10% by weight and the regulator concentration in the secondary stream is from 0.1 to 5% by weight, based on the monomer mixture.

18. (Previously Presented) The copolymer of claim 13, wherein the volume ratio of primary stream to secondary stream is from 1:0.2 to 5.

19. (Previously Presented) The copolymer of claim 13, wherein one, two or three secondary streams are used.

20. (Previously Presented) The copolymer of claim 13, wherein the comonomers are vinyl esters of the formula 1



in which R¹ is C₁- to C₃₀-alkyl.

21. (Previously Presented) The copolymer of claim 13, wherein the comonomers are acrylates of the formula 2



in which R² is hydrogen or methyl and R³ is C₁- to C₃₀-alkyl.

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22. (Previously Presented) The copolymer of claim 13, wherein the comonomers are alkyl vinyl ethers of the formula 3.



in which R^4 is C_1 - to C_{30} -alkyl, preferably C_1 - to C_{16} -alkyl, especially C_1 - to C_{12} -alkyl.

23. (Previously Presented) The copolymer of claim 13, wherein the comonomers used are monounsaturated hydrocarbons having 3 to 30 carbon atoms.

24. (Previously Presented) The copolymer of claim 13, wherein the comonomer content in the primary stream is from 7 to 100 parts by weight, per 100 parts by weight of ethylene, and the comonomer content in the secondary stream is from 20 to 300 parts by weight, per 100 parts by weight of ethylene.

25. (Previously Presented) The copolymer of claim 13, wherein the initiator contents in the primary stream are from 50 to 1000 ppm by weight, and the initiator contents in the secondary stream are from 200 to 2000 ppm by weight, in each case based on the monomer mixture.

26. (Previously Presented) The copolymer of claim 20, wherein R^1 is a C_1 - to C_{16} -alkyl.

27. (Previously Presented) The copolymer of claim 20, wherein R^1 is a C_1 - to C_{12} -alkyl.

28. (Previously Presented) The copolymer of claim 21, wherein R^3 is a C_1 - to C_{16} -alkyl.

29. (Previously Presented) The copolymer of claim 21, wherein R^3 is a C_1 - to C_{12} -alkyl.

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30. (Previously Presented) The copolymer of claim 22, wherein R^4 is a C_1 - to C_{16} -alkyl.
31. (Previously Presented) The copolymer of claim 22, wherein R^4 is a C_1 - to C_{12} -alkyl.
32. (Previously Presented) The copolymer of claim 13, wherein the comonomers used are monounsaturated hydrocarbons having 4 to 16 carbon atoms.
33. (Previously Presented) The copolymer of claim 13, wherein the comonomers used are monounsaturated hydrocarbons having 5 to 12, carbon atoms.
34. (Previously Presented) The copolymer of claim 13, wherein the comonomers used are selected from the group consisting of isobutylene, diisobutylene, 4-methylpentene, hexene, octene and norbornene.
35. (New) The copolymer of claim 13, wherein the comonomer content in the primary stream is from 3 to 200 parts by weight, preferably from 7 to 100 parts by weight, per 100 parts by weight of ethylene, and the comonomer content in the secondary stream is from 10 to 500 parts by weight, preferably from 20 to 300 parts by weight, per 100 parts by weight of ethylene.
36. (New) The copolymer of claim 13, wherein the initiator contents in the primary stream are from 50 to 1000 ppm by weight, and the initiator contents in the secondary stream are from 200 to 2000 ppm by weight, in each case based on the monomer mixture.